

Jonker), Sphenocleaceae (by H. K. Airy-Shaw), Nyssaceae (by J. Wasscher), Sarcospermaceae (by H. J. Lam), and Stackhousiaceae (by F. I. Brouwer). Included also is an introduction giving a résumé of the history of botanical work in the area, an explanation of the plans for the present work, and 22 extremely valuable pages on general considerations with a classification, description, and illustrations of phenotypic and genotypic variations which must be understood by all workers on a flora such as this.

It is expected that the work, profusely illustrated by maps, photographs, and line-drawings, will be completed in 25 years. Sample copies may be obtained from and subscriptions placed with Chronica Botanica Company, P. O. Box 151, Waltham 54, Massachusetts.

NOTES ON NEW AND NOTEWORTHY PLANTS. VIII

Harold N. Moldenke

ACANTHOLIPPIA RIOJANA Hieron. & Moldenke, sp. nov.

Frutex; caulis ramisque multis duris albis longitudinaliter multistriatis suberosis glabris vel glabrescentibus; samentis numerosis brevibus rigidis divaricatis spinosis dense puberulis; internodiis valde abbreviatis; foliis plerumque oppositis saepe irregulariter dispositis valde reductis lepidosis carnosiss sessilibus arote adnatis plerumque 3-lobatis.

Much-branched xerophilous shrub; stems and branches tough, white, longitudinally many-ridged, glabrous or glabrescent, covered with corky bark; twigs numerous, short, stiff, divaricate, spine-tipped, densely puberulent; principal internodes much abbreviated, the twigs usually 5--15 mm. apart, but leaves borne more or less irregularly on the branches between the twigs, the leaves on the twigs mostly adjacent or practically so; leaves mostly opposite, but sometimes alternate or scattered, much reduced and scale-like, fleshy, sessile and closely adnate to the twigs, branchlets, branches, and even scattered on the main stems, 1--2 mm. long, mostly 3-lobed, the central lobe about twice as long as the two lateral lobes, with much thickened and more or less revolute margins, deeply 3-canaliculate beneath, the margins glabrous, but the thin line of blade visible within the channels mostly minutely puberulent, no expanded non-appressed leaves produced even during and after anthesis; spikes terminal, much abbreviated, dense and congested, less than 1 cm. long and wide, few-flowered; bractlets rather large, imbricate, broadly elliptic, 3--3.5 mm. long, 1.5--2 mm. wide, somewhat navicular, short-acuminate at the apex, carinate on the back, densely white-villous on the back, subequaling the calyx; calyx tubular, about 3.5 mm. long, not winged, densely villous; rachis densely villosulous.

The type of this very remarkable and distinct species was collected by G. Hieronymus and G. Niederlein at Vinchina, La Rioja, Argentina, on March 5, 1879, and is deposited in the herbarium of the Botanisches Museum at Berlin. The name Acantholippia riojana was proposed for the species by Hieronymus, but was never published as far as I have been able to ascertain.

AEGIPHILA FROESI Moldenke, sp. nov.

Frutex; ramis gracilibus obtusissime tetragonis densissime longeque hirsutis, pilis rigidis ochraceis vel fulvis multicellularibus divergentibus; foliis oppositis; petiolis crassiusculis dense longeque hirsutis; laminis chartaceis ovatis, ad apicem breviter acuminatis, ad basin cordatis, integris vel longe ciliatis, utrinque longe ochraceo-villosis; inflorescentiis terminalibus sessilibus vel subsessilibus cymosis bracteolatis.

Shrub; branches slender, very obtusely tetragonal, very densely long-hirsute with stiff ochraceous or fulvous multicellular hairs 4--6 mm. long standing at right angles to the branch; principal internodes 4.5--8 cm. long; leaves decussate-opposite; petioles rather stout, 5--8 mm. long, densely long-hirsute like the branches; blades chartaceous, rather uniformly light-green on both surfaces, ovate, 9--13 cm. long, 5--8 cm. wide, short-acuminate at the apex, cordate at the base, entire-margined but long-ciliate due to the projection of the long-villous, ochraceous or fulvous hairs which lightly cover both surfaces of the blade; midrib slender, sharply prominent above, rounded-prominent beneath and more densely villous; secondaries slender, 7--10 per side, arcuate-ascending, plane or slightly prominulous above, prominent beneath, arcuately joined in many loops near the margins; tertiaries and veinlet reticulation conspicuous on both surfaces, slightly prominulous beneath; inflorescence terminal, sessile or subsessile, cymose, about 2 cm. long and 1 cm. wide, very densely fulvous-hirsute when immature, very abundantly and conspicuously bracteolate during anthesis; bractlets linear, 1.5--2 cm. long, abundantly long-hirsute, the lowermost ones often expanded and foliaceous toward the apex; pedicels filiform, 1.5--2 mm. long, glabrous; calyx cupuliform, about 1 mm. long and 1.5 mm. wide, completely glabrous, its rim truncate and subentire; corolla hypocrateriform, its tube cylindrical, about 3 mm. long, glabrous, its lobes 2--4 mm. long, glabrous.

The type of this beautiful and very distinct species was collected by Ricardo de Lemos Fróes (no. 20917) -- in whose honor it is named -- on terra firma at Benjamin Constant, Amazonas, Brazil, on May 9, 1945, and is deposited in the Britton Herbarium at the New York Botanical Garden. The species is closely related to A. villosissima Moldenke and A. cordata Poepp., but may be distinguished at once by its more conspicuous bractlets and entirely glabrous truncate calyx.

ALOYSIA CASADENSIS Hassler & Moldenke, sp. nov.

Frutex; ramis gracilibus obtuse tetragonis virgatis densiuscule patenteque pubescentibus; nodis non annulatis; foliis oppo-

ositis; petiolis gracillimis abbreviatis vel obsoletis dense patentemque pubescentibus; laminis chartaceis late ellipticis, utrinque viridis argute acutis, ad basin cuneatis, crasse serrato-dentatis, supra dense breviterque pubescentibus (pilis bulbosis), subtus dense breviterque pubescentibus et resinoso-glandulosis; inflorescentiis axillaribus spicatis.

Shrub, 1--1.2 m. tall; branches slender, obtusely tetragonal, virgate, rather densely spreading-pubescent; nodes not annulate; principal internodes 2--3 cm. long; leaves decussate-opposite; petioles very slender, 1--2 mm. long or obsolete, densely spreading-pubescent; blades chartaceous, broadly elliptic, uniformly green on both surfaces or slightly lighter beneath, 1--3 cm. long, 4--14 mm. wide, sharply acute at the apex, cuneate at the base, coarsely serrate-dentate with 2 or 3 teeth on each margin, densely short-pubescent with bulbous-based hairs above, densely short-pubescent and resinous-glandular beneath; midrib very slender, plane or subimpressed above, prominulous beneath; secondaries very slender, 3 or 4 per side, mostly obscure or indiscernible above, subprominulous beneath, ascending, only slightly arcuate; veinlet reticulation indiscernible on both surfaces; inflorescence axillary, spicate, to 3.5 cm. long (or longer?); peduncles very slender, 10--13 mm. long, tetragonal, spreading-pubescent with incanous hairs; spikes densely many-flowered; rachis densely short-pubescent, incanous; bractlets lanceolate, 1.5--2 mm. long, attenuate-acuminate, densely spreading-pubescent and resinous; calyx very densely spreading-pubescent, incanous, about 2 mm. long, its rim deeply 4-toothed, the teeth narrow and divergent; corolla white, about 3 mm. long, puberulent outside.

The type of this distinctive species was collected by Teodoro Rojas (no. 2529) at the edge of "montes", Puerto Casado, Chaco, Paraguay, in February 1917, and is deposited in the Osten Herbarium at the Museo de Historia Natural at Montevideo. It was named "Lippia lingustrina var. casadensis" by Hassler.

ALOYSIA LYCIOIDES var. REVOLUTA Moldenke, var. nov.

Haec varietas a forma typica speciei laminis foliorum rigidis ellipticis usque ad late ellipticis vel ovatis saepe subdentatis distincte revolutis recedit.

This variety differs from the typical form of the species in having the leaf-blades of very firm texture, elliptic to broadly elliptic or ovate, often subdentate, with distinctly revolute margins.

The type was probably collected by José Arechavaleta somewhere in Uruguay and is deposited in the herbarium of the Museo de Historia Natural at Montevideo.

ALOYSIA OBLANCEOLATA Moldenke, sp. nov.

Frutex; ramis graciusculis obtuse tetragonis griseis adpresso-puberulis plerumque 4-costatis; ramulis gracilibus acute tetragonis sordido-griseis dense adpresso-puberulis et resinoso-granulosis; nodis valde annulatis; foliis oppositis saepe pseudo-fascioulatis; laminis firme chartaceis oblanceolatis, ad

apicem rotundatis et subapiculatis, ad basin longe cuneatis, supra pustulatis, subtus glabris vel subfarinosis, integris valde revolutis; inflorescentiis axillaribus spicatis dense multifloris.

Shrub, 2--3 m. tall; branches rather slender, obscurely tetragonal, gray, appressed-puberulent, usually rather plainly 4-costate, the ribs eventually separating as string-like strips; branchlets slender, acutely tetragonal, sordid-gray, densely appressed-puberulent and resinous-granular; nodes plainly annulate; principal internodes quite uniform, 0.8--2 cm. long; leaves decussate-opposite, but usually with greatly abbreviated twigs in their axils, giving the appearance of opposite fascicles of leaves, sessile or subsessile; blades firmly chartaceous, rather dark-green above, light-green beneath, oblanceolate, 1--1.5 cm. long, 2.5--6 mm. wide, rounded and subapiculate at the apex, long-cuneate at the base, pustulate above, glabrous or subfarinose beneath and resinous-granular, entire, with decidedly revolute margins; midrib slender, impressed above, very sharply prominent beneath; secondaries very slender and irregular, 3--6 per side, indiscernible above, subprominulous beneath; veinlet reticulation indiscernible above, obscure beneath; inflorescence axillary, spicate, to 4 cm. long, densely many-flowered; peduncles very slender, short, 5--8 mm. long, densely puberulent and resinous, tetragonal, sulcate; rachis densely short-pubescent; bractlets lanceolate, 1 mm. long or less, acute, puberulent; calyx 2.5--3 mm. long, very densely white-villous with spreading or reflexed hairs, the rim shortly 4-toothed, the teeth narrow and divergent; corolla-tube about 4 mm. long, glabrous outside, the limb 2 mm. wide, puberulent in the throat within, glabrous outside.

The type of this characteristic species was collected from cultivated material at San Bernardino, Paraguay, by Teodoro Rojas (no. 53a), in July 1915, and is no. 7324 in the Osten Herbarium at the Museo de Historia Natural at Montevideo. It was determined as "Lippia ligustrina var. paraguariensis Briq." by Hassler.

CALLICARPA TSIANGII Moldenke, sp. nov.

Frutex; ramis mediocriter gracilibus obtusissime tetragonis stellato-farinaceis; foliis oppositis; petiolis gracilibus abbreviatis stellato-farinaceis; laminis tenuiter membranaceis late ellipticis vel obovatis longe acuminatis, ad basin acuminatis, denticulatis, supra puberulis, subtus dense puberulis et stellatis; inflorescentiis axillaribus cymosis multifloris brachiatis ubique dense stellatis.

Shrub 4 m. tall; branches medium-slender, very obtusely tetragonal, stellate-farinaceous with sordid-whitish pubescence that soon rubs off; principal internodes about 15 cm. long; leaves decussate-opposite; petioles slender, abbreviated, 2--5 mm. long, stellate-farinaceous; blades thin-membranous, somewhat lighter beneath, broadly elliptic or obovate, about 25 cm. long and 10--10.5 cm. wide when mature, long-acuminate at the apex, acuminate at the base, denticulate-margined from the widest

part to about half way up to the terminal acumination, minutely puberulent above, more densely so beneath and stellate on the larger venation; midrib slender, plane above, prominent beneath; secondaries very slender, 8--10 or more per side, arcuate-ascending, not distinctly joined at the margins; tertiaries and veinlet reticulation obscure above, the larger parts subprominulous beneath; inflorescence axillary, cymose, 4--5.5 cm. long, 4.5--6 cm. wide, many-flowered, brachiate, densely stellate throughout; peduncles slender, 8--20 mm. long; foliaceous bracts absent; bractlets and prophylla linear, 1--3 mm. long, stellate-farinaceous; pedicels filiform, 1 mm. long or less, stellate-farinaceous; calyx campanulate, 1 mm. long and wide (or less), more or less stellate-farinaceous, minutely 4-apiculate; corolla infundibular, about 4 mm. long in all, the lobes very short, glabrous outside except for some stellate hairs near the apex.

The type of this species was collected by Y. Tsiang (no. 10081) -- in whose honor it is named -- in dense shade of mixed woods, alt. 700 m., Tunghuashan, Ihwang, Kiangsi, China, on June 30, 1932, and is deposited in the Britton Herbarium at the New York Botanical Garden.

CLERODENDRUM WILDII Moldenke, sp. nov.

Fruticulus vel frutex vel arbor parva; ramis crassiusculis rigidis obtuse tetragonis suberosis, in sicciitate longitudinaliter corrugatis; nodis annulatis; internodiis plerumque valde abbreviatis; foliis oppositis; petiolis indistinctis vel obsolete marginatis vel alatis; laminis chartaceis ellipticis saepe falcatis conduplicatisque, ad apicem acutis vel subacuminatis, ad basin longe attenuatis, utrinque glabris nitidisque; inflorescentiis terminalibus racemosis sessilibus vel subsessilibus saepe densiuscule multifloris ubique pilosis vel puberulis.

Bush, shrub, or small tree, 2--3 m. tall; wood soft; branches rather stout, stiff, obtusely tetragonal, pithy, the bark smooth, gray-brown, corky, becoming longitudinally wrinkled or corrugated in drying; nodes annulate; principal internodes 0.5--8 cm. long, mostly much abbreviated on the branchlets and twigs; leaf-scars large, broadly cordate-elliptic, concave, corky-margined; leaves decussate-opposite, not present during anthesis or when fruit is produced; petioles rather indistinct, 2--10 mm. long or obsolete, winged or at least margined and glabrous; blades palish-green above, slightly paler beneath, not at all aromatic, chartaceous, elliptic, 3--9 cm. long, 1.5--5.5 cm. wide, often more or less falcate and conduplicate, mostly acute or very slightly acuminate at the apex (the point itself rather blunt), long-attenuate into the petiole at the base, glabrous and shiny on both surfaces, the margins rather coarsely serrate from the middle or slightly below the middle to near the apex, the apex and base entire, the teeth broadly triangular, irregular, blunt; midrib rather stout, mostly plane above, prominent beneath; secondaries very slender, 5--7 per side, arcuate-ascending, rather short, plane above, very slightly prominulous beneath, anastomosing in many

loops near the margins; tertiaries very slender, rather conspicuous on both surfaces but not prominent; inflorescence terminal, racemose, appearing when the plants are totally leafless and apparently maturing their fruit while the plants are still leafless; racemes sessile or subsessile, 4.5--10 cm. long, 2.5--4.5 cm. wide, many-flowered, often rather dense, the rachis slender, rather densely tomentellous-pubescent toward the base, less densely so toward the apex and after anthesis or sometimes very densely tomentellous throughout even when the fruits are falling, the hairs sordid-gray or brownish, the internodes abbreviated, usually only 7--15 mm. long, the flowers borne in opposite pairs at the nodes, each subtended by a conspicuous, lanceolate-ovate, often attenuate-acuminate bractlet usually 3--6 mm. long and 1.5--2 mm. wide at the base, sometimes the lowest ones elongated to 15 mm. and slightly foliaceous; pedicels filiform, 5--8 mm. long or more abbreviated during anthesis, more or less densely pubescent; calyx campanulate, firm-textured, reddish when fresh, 4--10 mm. long and about equally wide, more or less pilose-puberulent, especially along the rim, 5-lobed, the lobes 2--4 mm. long, subacute; corolla-tube about 6 mm. long, glabrous outside, the limb deeply 5-parted, the anterior lobe mauve or blue, obovate-elliptic, about 15 mm. long and 7 mm. wide, densely puberulent on the outer surface, the other lobes similar but pale-green, the outer side of all of the lobes dark gray-green; stamens 4, long-exserted; filaments about 3 cm. long, spreading-pilose near the base, downwardly curvate; anthers oblong, about 6 mm. long, yellowish; pistil long-exserted, 2--4 cm. long, usually slightly exceeding the stamens, often downwardly curvate, glabrous; stigma shortly bilobed, the lobes acute; ovary subglobose, about 5 mm. long and wide, glabrous, 4-celled, 4-ovulate; fruiting-calyx incrassate, broadly campanulate, rather finely pilosulous, the spreading lobes usually about as long as the tube; fruit fleshy, green, turning black, 1--1.5 cm. long and wide, deeply 4-lobed, glabrous, usually 4-seeded.

The type of this interesting species was collected by H. Wild (no. 1321) in woodland in Mfuti, alt. 4000 feet, Miami District, Southern Rhodesia, on October 4, 1946, and is deposited in the Britton Herbarium at the New York Botanical Garden. The type collection is no. 15489 in the Government Herbarium at Salisbury. Other flowering collections include Eyles 5056, H. Wild 1255 [Govt. Herb. Salisbury 15406], and J. C. Hopkins s.n. [Govt. Herb. Salisbury 12797] from Southern Rhodesia, Mrs. Macaulay 879 and F. A. Rogers 8514 from Northern Rhodesia, and J. McCounie 167 from Nyasaland. The description of the fruit is taken from E. Milne-Redhead 1236 and C. Sandwith 45 from Northern Rhodesia. Foliage characters are taken from H. Wild 2846 [Govt. Herb. Salisbury 22823]. The species is named in honor of the distinguished collector of the type specimen, whose splendid and very friendly cooperation in the writer's studies of the Rhodesian members of this and other groups is most deeply appreciated, and who made a special trip to the Ruwa River to col-

lect the first foliage material known of this species. He reports that the species does not grow in colonies, but occurs scattered. He found it at the edge of a granite whaleback with Combretum gueinzii, Vitex paysonii, Pterocarpus angolensis, and stunted Iscoverlinia globiflora and Brachystegia spiciformis. Photographs of the living plant are deposited, through his generosity, in the Britton Herbarium, and a painting of the plant, its leaves, flowers, and fruit is deposited in the Government Herbarium at Salisbury.

JUNELLIA PUNCTULATA Hieron. & Moldenke, sp. nov.

Fruticulus nanus caespitosus; caulibus ramisque valde abbreviatis densiuscule patenteque pubescentibus dense resinoso-granularibus; internodiis valde abbreviatis; foliis oppositis sessilibus profunde trifidis, lobis linearibus utrinque dense patenteque pubescentibus et resinoso-granularibus, ad apicem obtusis.

Low caespitose perennial, woody at the base, apparently no more than 7 cm. tall; stems and branches greatly abbreviated, rather densely spreading-pubescent with whitish hairs, densely resinous-granular; internodes abbreviated to 2 mm. or less; leaves decussate-opposite, sessile, deeply 3-fid, the divisions linear, 2--4 mm. long, densely spreading-pubescent and resinous-granular on both surfaces, obtuse at the apex.

The type of this species was collected by G. Hieronymus and G. Niederlein (no. 686) at Cuesta del Tocino, Sierra Famatina, La Rioja, Argentina, and is deposited in the Osten Herbarium (no. 13027) at the Museo de Historia Natural at Montevideo. Unfortunately, the type collection does not have inflorescences sufficiently matured for description, but the general habit, foliar, and pubescence characters are sufficient to identify the species.

LANTANA ARISTATA var. *HOEHNEI* Moldenke, var. nov.

Haec varietas a forma typica speciei bracteolis rotundato-obtusis at brevissime apiculatis recedit.

This variety differs from the typical form of the species in having the bractlets rounded-obtuse and very short-apiculate instead of long-acuminate at the apex.

The type was collected by Frederico Carlos Hoehne (Comm. Rondon 2821, in part) at Coxipó da Ponte, Mattogrosso, Brazil, in March 1911, and is deposited in the Britton Herbarium at the New York Botanical Garden. A duplicate of the same collection number, deposited at the Instituto de Botanica at São Paulo, is typical variety angustifolia (Kuntze) Moldenke. The two varieties are very easily distinguished by the bractlets, and even the foliar characters are distinctive. The new variety is named in honor of the distinguished collector of the type plant and in commemoration of the tremendously valuable work which he has done in the botanical exploration and elucidation of Brazil and in the establishment of the famous Instituto de Botanica and Jardim Botânico, with its arboretum and experimental forest adjuncs, at and near São Paulo.

LANTANA TRIFOLIA f. HIRSUTA Moldenke, f. nov.

Hæc forma a forma typica speciei ramis ramulisque petiolisque pedunculisque dense hirsuto-pubescentibus reedit.

This form differs from the typical form of the species in having its branches, branchlets, petioles, and peduncles densely hirsute-pubescent. Its inflorescences and leaf-blades are also usually more densely pubescent than in the typical form.

The type was collected by José Cuatrecasas (no. 14438) along the margins of roads and in cultivated places between Cabuyal and La Solorza, alt. 1000 m., Valle del Cauca, Colombia, on May 27, 1943, and is deposited in the Britton Herbarium at the New York Botanical Garden.

MESANTHEMUM AFRICANUM Moldenke, sp. nov.

Herba acaulescens; foliis caespitosis firme chartaceis graminoidibus, in statu juventute utrinque longe pilosis, in statu senectute glabrescentibus, multivenosis non fenestratis, ad apicem obtuse cucullatis; pedunculis solitariis multistriatis paulo contortis stramineis glabris; vagina arcte adpressa plusminusve longe pilosis multistriatis paulo contortis oblique fissis, lamina erecta cucullata; capitulis solitariis globosis albis.

Acaulescent herb; leaves basal, tufted, firmly chartaceous, grass-like, bright-green, 15--17 cm. long, about 1 cm. wide at the midpoint, long-pilose on both surfaces when young, glabrescent in age, bluntly cucullate at the apex, many-veined, not fenestrated; peduncles solitary, 60--63 cm. long, many-ribbed, somewhat twisted, stramineous, glabrous; sheath rather closely appressed, about 21 cm. long, more or less long-pilose with scattered hairs, many-striate, somewhat twisted, obliquely split at the apex; the blade erect, 5--6 cm. long, cucullate at the apex; heads solitary, globose, white, 1--1.3 cm. in diameter; involucre bractlets few, mostly hidden, stramineous, barbellate at the apex; receptacular bractlets narrow-spatulate, about 3.5 mm. long, the blade 0.5 mm. wide and densely white-barbellate, the haft glabrous and 0.2 mm. wide, its base surrounded by many dark-brown hairs about 4 mm. long and completely hiding the bractlet; staminate florets: sepals 3, connate only at the base, very dark-brown, about 2.5 mm. long and 1 mm. wide, rounded or subtruncate at the apex and densely white-barbellate on the back there, otherwise glabrous; petals 3, connate, white or subhyaline, about 3.5 mm. long, glabrous except for the densely white-barbellate apex; stamens 6, epipetalous, inserted near the base of the corolla-tube, included; pistillate florets: sepals 3, free and separate, caducous, dark-brown, oblong, navicular, about 2.7 mm. long and 1 mm. wide, obtuse or rounded at the apex and densely white-barbellate on the back there; petals 3, free at the base, connate into a tube above, white or subhyaline, about 4 mm. long, densely villous with long, dark-brown, appressed hairs reaching from the base to the middle on the outside, also shortly brown-villous within just above the free portion, the lobes about 0.8 mm. long, obtuse, densely white-villous at the apex on the back; staminodes

3, anantherous, epipetalous, slightly surpassing the inner hairs on the corolla-tube; pistil about 3.5 mm. long, glabrous; style about 1 mm. long; stigmas 3, erect, about 1 mm. long; ovary large, 3-celled, 3-sulcate, 3-ovulate

The type of this species was collected by R. C. Munch (no. 72) in the Chimanimani mountains, Portuguese East Africa, just over the Southern Rhodesian boundary, on June 9, 1948, and is deposited in the Britton herbarium at the New York Botanical Garden. The species was also collected by F. W. J. McCosh on the Southern Rhodesian side of the boundary.

PAEPALANTHUS BARKLEYI Moldenke, sp. nov.

Herba humilis caulescens; ramis valde foliosis rectis vel ascendentibus; foliis linearibus dense imbricatis amplexicaulibus, in statu juventute supra longe pilosis, in statu senectutis utrinque glabratis, ad apicem subulato-acutis, indistincte 5-nerviis non fenestratis; pedunculis contortis glabris striatis; vaginis cylindricis laxis multistriatis parce pilosis contortis oblique fissis; capitulis subglobosis griseo-albidis.

Low herb, 15--18 cm. tall; stems evident, to 10 cm. long, 3-branched; branches very leafy, about 5 cm. long, erect or ascending; leaves linear, densely overlapping, 2--2.5 cm. long, 1.5--2 mm. wide at the midpoint, sheathing the stem at the base, practically glabrous throughout when mature, long-pilose above when young, subulate-acute at the apex, rather indistinctly 5-nerved, not fenestrate; peduncles 3--6 per branch, about 13 cm. long, several-ribbed, twisted, glabrous; sheaths cylindrical, rather loose, about 2 cm. long, many-striate, twisted, sparsely pilose and obliquely split at the apex; heads subglobose, grayish-white, sordid, 5--6 mm. in diameter; involucre bractlets stramineous, concave, ovate, about 2.5 mm. long and 1.5 mm. wide, acute at the apex, minutely strigillose toward the apex on the back; receptacular bractlets oblong or subobovate, dark-brown, about 1.5 mm. long and 0.5 mm. wide, densely white-barbellate at the apex on the back; staminate florets: sepals 3, dark-brown, obovate, about 1.5 mm. long and 1 mm. wide, navicular, densely white-barbellate at the rounded apex; petals 3, united into a hyaline tube about 1.3 mm. long, glabrous; stamens 3; filaments about 0.8 mm. long, hyaline, glabrous; rudimentary pistil minute; pistillate florets: sepals 3, dark-brown, more or less navicular, broadly obovate, about 1.5 mm. long and 1 mm. wide, densely white-barbellate at the apex on the back; petals 3, free and separate to the base, oblong or oblanceolate, subhyaline, about 2 mm. long and 0.8 mm. wide, strigillose-barbellate on the back; pistil 2 mm. long, glabrous; stigmas 3; style-appendages 3, slightly narrower and longer than the stigmas; ovary 3-celled, 3-lobed, 3-ovulate, glabrous.

The type of this species was collected by Samuel Posada S., Manuel Torregrosa, and Fred A. Barkley (no. 18A100) in sandy rather dry soil among ferns, rushes, and some shrubs along streams on the subparamo, in a cold climate, at an altitude of about 2600 m., about 1 km. north of Santa Rosa de Osos, Antioquia, Colombia, on September 25, 1948, and is deposited in the

Britton Herbarium at the New York Botanical Garden.

PAEPALANTHUS LILLIPUTIANUS Moldenke, sp. nov.

Herba nanissima; caulibus erectis dense foliatis; foliis firmis viridibus recurvatis lanceolatis subamplexicaulibus obtusis, basin versus parce ciliatis, cetera glabra; capitulis sessilibus densissime albo-villosis plerumque 3; vaginis pedunculisque bracteolisque involucrentibus nullis; receptaculo densissime longeque villosis.

Extremely dwarf herb, about 80 mm. tall in all; stems about 50 mm. long, erect, densely leafy, usually several-headed, each head terminating an abbreviated branch; leaves firm-textured, uniformly bright-green on both surfaces, recurved, lanceolate, about 4 mm. long, ampliate and whitened at the more or less clasping-appressed base, 1.5 mm. wide at the base, about 0.8 mm. wide at the midpoint, blunt at the apex, sparsely ciliate along the margin toward the base (just above the basal ampliation), otherwise glabrous, the uppermost subtending the heads and about 3 mm. long; heads sessile, about 2 mm. wide, very densely white-villous, usually about 3 per plant; sheaths, peduncles, and involucre bractlets absent; receptacle very densely long-villous with erect white hairs; receptacular bractlets linear, hyaline, about 1 mm. long, densely long-villous in brush-like fashion at the apex; staminate florets: sepals 3, connate at the base only, linear-oblong, about 1.3 mm. long and 0.2 mm. wide, rounded at the apex, long-villous on the back and densely white-barbellate at the apex; petals 3, connate into an infundibular hyaline tube about 1 mm. long, glabrous; stamens epipetalous, 3; pistillate florets: sepals 3, free and separate to the base, hyaline, oblong-linear, about 1 mm. long and 0.2 mm. wide, acute at the apex, glabrous; petals 3, free and separate, hyaline, oblong-linear, about 1 mm. long and 0.2 mm. wide, loosely barbellate at the apex, otherwise glabrous; pistil about 1.3 mm. long, glabrous; style about 0.4 mm. long; stigmas 3, erect, about 0.4 mm. long; ovary 3-celled, 3-lobed, 3-ovuled, glabrous.

The type of this tiny species was collected by R. Giglioli in British Guiana in 1931 and is deposited in the herbarium of the Instituto Botanico della Università at Florence, Italy. Nothing further is known of the exact place of collection, although other collections made by the same Italian expedition (according to H. Y. Sandwith, of Kew) are from the "Muri bush", a sort of scrub savanna formation dominated by *Humiria floribunda*, on sand, on the Demerara River near its confluence with the Kuruduni River and on the Essequibo-Demerara divide near this point. The species closely resembles *P. sessiliflorus* Mart., from Bahia, Brazil, and *P. subsessilis* Moldenke from Lará, Venezuela, but differs in its technical characters.

SCHLEGELIA MONACHINOI Moldenke, sp. nov.

Frutex scandens vel epiphyticus; caulibus crassis obscure tetragonis griseis glabrescentibus; ramis ramulisque densiuscule patenteque pubescentibus; nodis non annulatis; foliis op-

positis vel approximatis; petiolis percrassis densiuscule breviterque pubescentibus, in statu senectute glabrescentibus; laminis crasse coriaceis rigidis ellipticis obtusis, ad basin acutis, integris et leviter subrevolutis, in statu juventute utrinque parce pubescentibus, in statu senectute utrinque glabris, saepe basin versus utrinque punctulatis; inflorescentiis axillaribus, racemis simplicibus vel breviter brachiatis.

Woody vine or epiphytic shrub; stems coarse, rather obscurely tetragonal, gray, glabrous in age; branches and branchlets more slender, rather densely spreading-pubescent with brownish hairs; nodes not annulate; principal internodes 1.5--4.5 cm. long; leaves decussate-opposite or approximate; petioles very stout and coarse, 0.8--2 cm. long, rather densely short-pubescent when young, glabrescent in age; blades thick-coriaceous, rigid, clear-green above, paler beneath, elliptic, 9--20 cm. long, 5.5--11 cm. wide, blunt (often deformed) at the apex, acute at the base, entire and slightly subrevolute along the margins, sparsely pubescent on both surfaces when immature, glabrous when mature, often punctulate toward the base on both surfaces; midrib coarse, plane or subimpressed above, sharply prominent beneath; secondaries about 5 per side, arcuate-ascending, plane or subimpressed above, sharply prominent beneath; larger veinlet reticulation rather conspicuous on both surfaces; inflorescence axillary, racemiform; racemes 1 or 2 per axil, 3--11 cm. long, 1.5--2 cm. wide in anthesis, 5 cm. wide in fruit, simple or with a very few greatly abbreviated 2- or 3-flowered branches; peduncles slender, 8 mm. long or less, often obsolete, densely brown-pubescent; rachis slender, densely brown-pubescent, less so in age; bracts numerous, one subtending each flower and inflorescence-branch, lanceolate, 2--5 mm. long, 1--1.5 mm. wide, attenuate-acuminate at the apex, sessile, glabrous except for the more or less ciliolate margins or sometimes sparsely pilosulous on the back toward the apex; calyx campanulate, heavy, tough, greenish-white, nigrescent in drying, scarious-margined, about 5 mm. long and wide, very sparsely pilosulous on the outside, its rim irregularly 3- or 4-lobed, the lobes broadly triangular and acute; corolla hypocrateriform, its tube broadly cylindric, gradually ampliate above, greenish-white, about 1 cm. long, glabrous, its rim whitish-lilac, more deeply lilac in the throat, 5-lobed, the lobes spreading, unequal, about 5 mm. long, 2--3 mm. wide, glabrous on both surfaces, rounded at the apex; stamens inserted at about the middle of the corolla-tube, equaling the tube or very slightly exerted; filaments glabrous; staminode minute; anthers oblong, about 1 mm. long; pistil borne on a conspicuous annular disk; ovary subglobose, about 1 mm. long and wide, glabrous; fruiting-calyx incrassate, about 5 mm. long and 10 mm. wide, corky-margined, irregularly triangular-lobed, sparsely pilosulous or glabrescent; fruit fleshy, purple, 10--12 mm. in diameter, containing abundant purple juice, glabrous.

The type of this species was collected by José Cuatrecasas (no. 19579) at La Cumbre, alt. 1680 m., in the Cordillera Occidental, Valle del Cauca, Colombia, on February 25, 1945, and is

deposited in the Britton Herbarium at the New York Botanical Garden. The species is related to S. macrophylla Ducke and S. albiflora Kuhlmann, from both of which it differs abundantly by its simple inflorescences, the size and shape of its bracts, and in other characters.

STACHYTARPHETA AUSTRALIS var. **NEOCALEDONICA** Moldenke, var. nov.

Hæc varietas a forma typica speciei dentibus foliorum argutis divaricatis recedit.

This variety differs from the typical form of the species in having the teeth on its leaf-margins very sharply acute and divergent. The plant gives the appearance of having the inflorescences of S. australis and the leaves of S. urticaefolia, but the leaves appear to be smaller than is typical for the latter species.

The type was collected by Friedrich Richard Rudolf Schlechter (no. 14881) on hills, alt. 50 m., at Paita, New Caledonia, on October 2, 1902, and is deposited in the herbarium of the Naturhistoriska Riksmuseum at Stockholm.

STACHYTARPHETA RORAIMENSIS var. **PUBESCENS** Moldenke, var. nov.

Hæc varietas a forma typica speciei ramis ramulisque rachideque bracteolisque calyceque petiolisque laminisque foliorum utrinque dense pubescentibus recedit.

This variety differs from the typical form of the species in having the branches, branchlets, rachis, bractlets, calyx, fruiting-calyx, petioles, and both leaf-surfaces densely pubescent.

The type was collected by Francisco Tamayo (no. 2765) in rocky places at Cerro Kanaimé, near Santa Elena, Gran Sabana, Bolívar, Venezuela, on February 13, 1946, and is deposited in the herbario Nacional de Venezuela at Caracas.

TITHYMALOPSIS IPECACUANHAE f. **RUBRA** Moldenke, f. nov.

Hæc forma a forma typica speciei foliis orbiculatis rubris recedit.

This form differs from the typical form of the species in its red or purple orbicular leaf-blades.

The type was collected by H. N. Moldenke (no. 10994) in dry sandy pinebarrens at Forked River, Ocean County, New Jersey, on August 31, 1937, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA BONARIENSIS f. **ALBIFLORA** Moldenke, f. nov.

Hæc forma a forma typica speciei corollis albis recedit.

This form differs from the typical form of the species in having white corollas.

The type was collected by A. V. de la Sota (no. 82) on Isla "El Cavadito", dept. Guleaguay, Entre Ríos, Argentina, on January 13, 1947, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA CAMPESTRIS Moldenke, sp. nov.

Herba pumila; caule radicante gracillima; ramis procumbentibus vel adscendentibus gracillimis obtusiuscule tetragonis parce adpresso-pubescentibus; foliis oppositis; petiolis gracillimis strigillosis; laminis chartaceis ovatis obtusis, ad basin acutis vel subcuneatis, profunde 3-lobatis, lobis irregulariter incisus, lobulis obtusis, supra parce strigillosis, subtus in reticulo venularum strigillosis.

Low herb; stems creeping, very slender, shortly appressed-pubescent; branches procumbent or ascending, very slender, rather obtusely tetragonal, rather sparsely appressed-pubescent; leaves decussate-opposite; petioles very slender, 1--2 mm. long and strigillose; blades chartaceous, uniformly bright-green on both surfaces, ovate in outline, 5--10 mm. long and wide, obtuse at the apex, acute or subcuneate at the base, 3-lobed with deep sinuses, each lobe rather irregularly incised with obtuse lobules, finely strigillose above and on the venation beneath; midrib, secondaries, and veinlets very slender, often subimpressed above, prominulous beneath; inflorescence terminal, spicate, the floriferous portion of the spikes dense, subcapitate when young, later elongating to 15 mm.; peduncles filiform, 1--4 cm. long, puberulent; bractlets narrowly elliptic, about 3 mm. long and 1 mm. wide, attenuate at the apex, ciliate-margined; calyx tubular, about 4 mm. long, 5-angled, 5-costate, 5-apiculate, spreading-ciliate on the angles; corolla hypocrateriform, blue, its tube about 4 mm. long, strigillose above the calyx, its lobes about 2 mm. long, emarginate at the apex, finely strigillose on the outside.

The type of this very distinct species was collected by Raulino Reitz (no. 2392) on a campo, alt. 2000 m., at Campos dos Padres, Santa Catharina, Brazil, on December 16, 1948, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA INTERMEDIA var. *LANUGINOSA* Moldenke, var. nov.

Hæc varietas a forma typica speciei caulibus ramisque pedunculisque foliisque densissime lanuginosis recedit.

This variety differs from the typical form of the species in having its stems, branches, peduncles, and leaves (especially the lower surfaces) very densely lanuginous.

The type was collected by Adrian Ruiz Leal (no. 2981) at the edge of a dry river at La Pampa, San Pablo, dept. Tunuyan, Mendoza, Argentina, on February 6, 1935, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA LOBATA var. *GLABRATA* Moldenke, var. nov.

Hæc varietas a forma typica speciei ubique glabris recedit.

This variety differs from the typical form of the species in being completely glabrous throughout.

The type was collected by Padre B. Rambo (no. 2816) at São Francisco de Paulo, Rio Grande do Sul, Brazil, on January 14, 1937, and is deposited in the Britton Herbarium at the New York Botanical Garden. Padre Rambo deserves the highest praise for the noteworthy work he is doing on the flora of this state.

VERBENA NANA Moldenke, sp. nov.

Herba annua pumila; caulibus rectis obtuse tetragonis in siccitate profunde 4-sulcatis dense albo-hirsutulis, pilis plerumque glanduliferis; foliis oppositis; petiolis gracilibus dense hirsutulis; laminis chartaceis ovatis obtusis vel subacutis, ad basin acutis, adpresso-serrulatis utrinque densiuscule glandulifero-pubescentibus; inflorescentiis terminalibus densis.

Dwarf annual herbs 1 dm. or less in height; stems erect, usually with 2 ascending or erect branches at the base, obtusely tetragonal, deeply 4-sulcate in drying, densely hirsutulous with whitish mostly glanduliferous hairs of various lengths standing at right angles to the stem; principal internodes 0.5--2 cm. long; leaves decussate-opposite; petioles slender, 3--11 mm. long, densely hirsutulous like the stem; blades chartaceous, rather uniformly green on both surfaces, ovate, 13--25 mm. long, 8--12 mm. wide, obtuse or subacute at the apex, acute at the base, appressed-serrulate with rather wide, flat, rounded teeth from the widest part to the apex, rather densely pubescent on both surfaces with whitish, stiff, straight, more or less glanduliferous hairs; midrib slender, plane above, subprominent beneath; secondaries slender, 2--5 per side, ascending, subprominulous beneath; veinlet reticulation rather obscure on both surfaces; inflorescence terminal, dense, rather few-flowered, sessile or subsessile; bractlets lanceolate, 4--5 mm. long, glandular-pubescent; calyx tubular, about 11 mm. long, densely hirsutulous with short, whitish, often glanduliferous hairs standing at right angles to the surface, the rim irregularly 5-apiculate, the teeth about 1 mm. long; corolla hypocrateriform, its tube about 15 mm. long, glabrous outside, its limb 5--6 mm. wide, glabrous.

The type of this very distinct species was collected by Ishmael Morel (no. 117) at Pirané, dept. Pirané, Formosa, Argentina, on October 23, 1945, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VERBENA REITZII Moldenke, sp. nov.

Fruticulus perennis; ramis ramulisque crassiusculis acute tetragonis ubique glabris; sarmentis graciusculis sulcatis glabris nitidis; nodis subannulatis; foliis numerosis oppositis sessilibus; laminis chartaceis firmis anguste ellipticis vel oblongis acutis, ad basin amplexicaulibus, superioribus integris, inferioribus irregulariter arguto-serratis glabris sed supra subscabridis; inflorescentiis terminalibus soloatis.

Shrubby perennial, about 1 m. tall; stems and branches rather stout, acutely tetragonal, glabrate throughout; branchlets more slender, acutely tetragonal, sulcate between the angles, glabrous and shiny throughout; nodes somewhat annulate; principal internodes 1--2.5 cm. long; leaves numerous, decussate-opposite, sessile; blades chartaceous, firm, rather uniformly bright-green on both surfaces, narrowly elliptic or oblong, 1.4--4 cm. long, 2--6 mm. wide, acute at the apex, amplexicaul at the base, the upper ones entire, the lower ones rather irregularly sharp-serrate with 1--3 teeth per side, glabrous but very

slightly scabrid above; midrib very slender, plane or impressed above, prominent beneath; secondaries very slender, 1--5, ascending, obscure or subimpressed above, subprominulous beneath; vein and veinlet reticulation not visible; inflorescence terminal, spicate, the spikes much abbreviated and almost subcapitate, usually in clusters of 3, 1--1.5 cm. long, densely many-flowered; peduncles slender, much abbreviated, 4--14 mm. long, tetragonal, glabrous; bractlets lanceolate, 3--4 mm. long, 1 mm. wide at the base, regularly tapering to the acute apex, glabrous; calyx tubular, 4--5 mm. long, 5-apiculate, glabrous or microscopically strigillose; corolla red, infundibular or hypocrateriform, its tube about 4 mm. long, strigillose, the limb 4--5 mm. wide.

The type of this distinct species was collected by Raulino Reitz (no. 2366) in a wet campo at Campo dos Padres, alt. 1900 m., Santa Catharina, Brazil, on December 16, 1948, and is deposited in the Britton Herbarium at the New York Botanical Garden.

VITEX PINNATA var. *ALATA* Moldenke, var. nov.

Haec varietas a forma typica speciei petiolis plerumque plusminusve late alatis recedit.

This variety differs from the typical form of the species in having the petioles usually more or less broadly winged.

The type was collected by Eugene Poilane (no. 2751) at Nhatrung, Annam, French Indochina, on March 9, 1922, and is deposited in the herbarium of the Naturhistoriska Riksmuseum at Stockholm.

LANTANA VIBURNOIDES var. *VELUTINA* Moldenke, var. nov.

Haec varietas a forma typica speciei ramis ramulisque laminisque petiolisque pedunculisque densissime velutinis et pedunculis valde abbreviatis recedit.

This variety differs from the typical form of the species in having its branches, branchlets, petioles, lower leaf-surfaces, and peduncles densely velutinous and in having the peduncles uniformly abbreviated, 1--2 cm. long.

The type was collected by J. G. Myers (no. 6529) in short upland grassland near Azza Forest, Equatorial Province, Anglo-Egyptian Sudan, on May 4, 1937, and is deposited in the herbarium of the Royal Botanic Gardens at Kew.

LIPPIA PEARSONI Moldenke, sp. nov.

Frutex multiramis; ramis crassiusculis angulatis costatis dense puberulis; ramulis sarmentisque plerumque ternatis gracilibus minute puberulis vel glabrescentibus; foliis plerumque ternatis; petiolis gracilibus pilosulo-puberulis; laminis chartaceis parvis anguste ellipticis vel lanceolatis ad basin apicemque attenuatis obscure serrulatis supra parce strigosis scabris, subtus dense punctatis; inflorescentiis axillaribus spicatis, spicis oblongis dense multifloris.

Shrub 1.5--2 m. tall, much branched; branches rather stout, somewhat angular and ribbed, densely puberulent; branchlets and twigs usually ternate, slender, minutely puberulent or glabres-

cent, often ribbed; nodes not annulate; principal internodes 1--6.7 cm. long; leaves mostly ternate; petioles slender, 1--5 mm. long, pilosulous-puberulent; blades chartaceous, rather uniformly green on both surfaces, small, narrow-elliptic or lanceolate, 2--7 cm. long, 5--15 mm. wide, attenuate at both ends, very finely and rather obscurely serrulate, finely strigose and scabrous above, densely punctate beneath and strigose along the larger venation; midrib slender, subimpressed above, prominent beneath; secondaries very slender, 5--9 per side, ascending, slightly arcuate, subimpressed above, prominulous beneath; veinlet reticulation subimpressed above, only the larger parts distinct beneath; inflorescence axillary, spicate, usually 4--8 per node, the floriferous portion oblong, densely many-flowered, to 15 mm. long; peduncles slender, 5--13 mm. long, appressed-puberulent; bractlets ovate, about 2 mm. long and wide, acute, densely puberulent and resinous-granular; corolla white, barely surpassing the bractlets, the limb about 2 mm. wide, densely puberulent on the outside.

The type of this species was collected by H. H. W. Pearson (no. 2673) in open places between Chibia and Quihita, southern Angola, on May 13, 1909, and is deposited in the herbarium of the Royal Botanic Gardens at Kew. The collector notes that the stems and leaves are fragrant, and that the plant is common.

ANOMOSPERMUM GLAUDESCENS Moldenke, sp. nov.

Frutex scandens; ramis graciusculis glabris vel minute puberulis glaucis; foliis irregulariter alternis; petiolis gracilibus glabrescentibus praeter basin; foliis ellipticis supra nitidis subtus glaucis et minute puberulis 6-plexi-nerviis.

Large woody vine; branches rather slender, glabrous or microscopically puberulent, glaucescent; leaves alternate, irregularly disposed, sometimes approximate; principal internodes varying from 5 mm. to 6 cm.; petioles rather slender, 5.5--8 cm. long, microscopically puberulent toward the base, the remainder glabrescent, genuiflexuous just below the apex, the apical thickening 5--10 mm. long, joining the blade 1--4 mm. above its base in subpetate fashion; blades subcoriaceous, elliptic or very slightly subovate-elliptic, bright-green and very shiny above, glaucescent beneath, 11.5--14.5 cm. long, 6.5--8.5 cm. wide, glabrous above, microscopically puberulent beneath; midrib slender, plane above, prominent beneath; secondaries slender, about 5 per side, the 2 lowest pairs issuing in pinnerved fashion from the petiole-apex, plane or very slightly prominulous above, prominent beneath; tertiaries and veinlet reticulation practically indiscernible above, subprominulous beneath, irregular; inflorescence and flowers not seen; fruit yellow, drupaceous, asymmetric, attached at right angles to the pedicel, about 5 cm. long and 4 cm. wide in the dried state, nigrescent in drying; exocarp coriaceous, glabrous, shiny.

The type was collected by R. L. Fróes (no. 23446) on high land in high forest at Javarisinho, on the east side of Rio Tocantins, Pará, Brazil, and is deposited in the Britton Herbarium at the New York Botanical Garden.